singular an appearance, and they are undoubted proof of new growth.

In the Corumbá bird they form about the terminal fifth of the feather. Thus a breast feather measures, from tip to insertion, .75 of an inch, of which the buff tip occupies .15 of an inch. A feather from the same region in a June Bobolink, from which the tip has fallen, and which is further worn, measures only .50 of an inch. There can be no reason to question therefore that feathers having these tips are recently grown. I emphasize the point, for I have yet to see an April Bobolink, and I have examined numerous specimens, in which these tips were not prominent. It is, therefore, not alone upon the Corumbá specimen but upon these April birds that I base my theory of a spring moult in *Dolichonyx*. How or when a caged Bobolink may change plumage no man can predict but among wild birds there is as yet no recorded evidence that the breeding plumage is not acquired by a complete moult.

DESCRIPTIONS OF TEN NEW SPECIES OF BIRDS DISCOVERED BY DR. W. L. ABBOTT IN THE KILIMANJARO REGION OF EAST AFRICA.[1]

BY CHARLES W. RICHMOND.

A VERY valuable collection of birds made several years ago in the Kilimanjaro region of East Africa and presented to the United States National Museum by Dr. W. L. Abbott, not only supplied to the Museum many species previously unrepresented in its collections, but contained numerous species new to science. Various causes, mainly lack of material for comparison, have prevented the correct determination of a large part of the collection, although recently, through the generosity of Mr. A.

[1] By permission of Mr. F. W. True, Executive Curator, U. S. National Museum.

Boucard, the Museum series has been greatly enriched by the addition of many African birds as well as by a large number of specimens (several thousand) from various parts of the world. In the meantime, however, the great activity shown by English and German naturalists in the ornithology of this region resulted in the discovery of many new species, among them several of those first collected by Dr. Abbott. In order to reserve for Dr. Abbott the credit of discovering a few new species in the Kilimanjaro region, it is thought best to publish with as little delay as possible descriptions of the ten species presented below, which were identified in a recent partial examination of his collection. It is hoped that a full catalogue of this very interesting collection may be given in the near future.

1. **Crithagra kilimensis,** new species.

Type.—No. 118331, U. S. N. M.; male adult, Mount Kilimanjaro, 6000 feet, August 11, 1888; Dr. W. L. Abbott, collector.

Top of head (including forehead), sides of neck, back, scapulars, rump, and upper tail-coverts almost uniform olive grayish brown (between olive and hair brown), most of the feathers with very slightly darker centres; the head slightly darker than the back, the latter and upper tail-coverts with a slight greenish wash; lores blackish, a minute supraloral white spot, only noticeable on disturbing the feathers; feathers around the eye blackish, some of them with white bases; a narrow supra-auricular streak, white, interrupted with dusky; cheeks, chin, and sides of face near base of bill blackish, the feathers with more or less concealed white at bases, except at base of chin; fore throat with some white on bases of feathers: rest of throat, chest, sides of breast, ear-coverts, and remainder of cheeks, hair brown, with a slight olive tinge; some of the feathers of chest with darker centres; centre of breast, abdomen, sides of body and flanks buff, darker on the first named, where obscurely streaked with hair brown, the streaks becoming more pronounced, broader and darker on sides of body and flanks; under tail-coverts dusky brown, broadly edged with buff; thighs dusky brown, tipped with buff; wings and tail blackish brown, each feather (except first primary and outermost tail feather) edged with greenish yellow; tertiaries with greenish white tips, mostly on outer webs; lesser wing-coverts olive green; middle coverts blackish brown, with olive green edges, and greenish white tips, forming a bar; greater coverts blackish brown, edged with greenish yellow, and tipped with greenish white, forming a second wing bar; alula and primary coverts blackish brown, narrowly edged with olive green; axillaries maize yellow:

edge of wing light olive yellow; under wing-coverts light grayish, tipped with maize yellow; inner webs of primaries on under surface grayish white. In the dried skin the bill is dark brown above, whitish below; feet and tarsi light brown. Wing, 3.25 inches; tail, 2.70; tarsus, .77; culmen, .63. A second male measures: wing, 3.28; tail, 2.75; tarsus, .76; culmen, .61. This specimen is a trifle more olive on the back, rump, and upper tail-coverts; the chest and breast are browner; buff of under parts deeper, and under tail-coverts almost wholly of this color. It was collected April 16, 1888, while the type, described above, was taken in August.

This new species finds its nearest ally in the recently described *Crithagra albifrons* Sharpe, from Kikuyu and Mount Elgon, and both species are more or less closely related to *C. burtoni* from the Cameroons. From *C. albifrons* it differs in the absence of a white band across the base of the feathers above the lores, but the various more or less concealed white markings about the upper throat, cheeks, and below the base of the ear-coverts is an indication of close relationship with that species. The chin is black in *C. kilimensis* instead of dusky gray as in *C. albifrons;* the tips of the middle and greater wing-coverts are greenish white instead of white; the tips of the greater series are not narrower than those of the median coverts. In both size and color *C. kilimensis* stands between *C. burtoni* and *C. albifrons*.

Only two specimens of this species were obtained by Dr. Abbott, the type at 6000 feet, and the other at 7000 feet. Other explorers of Kilimanjaro have apparently not observed this species.

2. Crithagra striolata affinis, new subspecies.

Type.—No. 118319, U. S. N. M.; male, adult, Mount Kilimanjaro, 6000 feet, June 12, 1888; Dr. W. L. Abbott, collector.

Upper surface, from forehead to rump yellowish olive, mixed with yellowish buff on nape, occiput, and to a less extent on back, all of the feathers with dark brown centres, giving a streaked appearance; centre of forehead and crown with a decided yellowish wash; sides of forehead naples yellow, passing into buffy white on a broad superciliary streak which extends to sides of neck; lores, feathers around eye, ear-coverts, cheeks, and a line from gape to ear-coverts brownish olive; line above cheeks, and a spot at base of upper mandible and under eye buffy white, tinged with yellow; throat buffy white, with a pronounced wash of wax yellow; sides of neck pale buff, streaked with dark brown; rest of under surface buff, much deeper on flanks; breast and sides of body conspicu-

ously streaked with dark brown; feathers of under tail-coverts with dark brown centres; thighs pale brown, with a yellowish tinge, some of the feathers indistinctly streaked; wings and tail blackish brown, the feathers (except outermost tail feather and first primary) edged with olive yellow on the outer webs; tertiaries with paler, whitish edges; lesser wing-coverts greenish olive; middle coverts blackish brown with whitish tips; greater series blackish brown, edged externally with olive yellow with whitish tips; primary coverts and alula blackish brown, narrowly edged externally with olive yellow; axillaries brownish buff, mixed with yellow; edge of wing yellow; under wing-coverts pale wood brown. Wing, 2.58 inches; tail, 2.44; tarsus, .83; culmen, .51.

Three other specimens in the collection, all females, obtained at altitudes of 5000 and 7000 feet, in April and May, 1888, and October, 1889, resemble in color and size the adult male described above, but they are slightly duller in appearance.

This form has been observed in East Africa upon several occasions and Dr. Sharpe has twice directed attention to differences between specimens from this region and Abyssinia (the type locality of *C. striolata*). He observes,[1] "the specimen from Kilimanjaro has a yellowish chin and more olive-yellow on the wing-coverts, but as some of the Abyssinian specimens also show a little of the latter colour, there is probably no real difference between birds from the two localities"; and again in his report on Mr. Jackson's collections[2] he writes of specimens from Mount Elgon and Kikuyu, "taken as a whole the members of the present series, as well as the Kilimanjaro birds in the British Museum, are darker than Abyssinian examples." In addition to the differences mentioned by Dr. Sharpe the Kilimanjaro birds are smaller, and I have separated them accordingly.

3. **Estrilda cyanocephala,** new species.

Type. — No. 118252, U. S. N. M.; male, adult, Useri river, near Mount Kilimanjaro, January 12, 1889; Dr. W. L. Abbott, collector.

Whole head, breast, sides of body, rump, upper tail-coverts and tail nile blue, somewhat darker on the inner webs of the tail feathers; nape, back, scapulars, wing-coverts, and sides of neck wood brown; wings ashy brown, edged with wood brown; lower breast, abdomen, under tail-coverts,

[1] Catalogue of Birds Brit. Mus., XII, 1888, 364.

[2] Ibis, 1891, 258.

thighs, axillaries, and under wing-coverts cinnamon buff; edge of wing nile blue. "Bill and irides red." Wing, 2.08 inches; tail, 2.14; tarsus, .58; culmen, .36.

This species is closely related to *E. angolensis*, but the entire head is blue; the brown of the upper surface and wings is darker, and the abdomen and under tail-coverts are of a deeper color.

A second specimen in the collection, also an adult male, was collected on the plains east of Kilimanjaro, October 5, 1888.

4. **Cinnyris nectarinioides,** new species.

Type. — No. 118227, U. S. N. M.; male, adult, Plains east of Mount Kilimanjaro, October 1, 1888, Dr. W. L. Abbott, collector.

Entire head, neck, back, rump, and lesser wing-coverts metallic brassy green; upper tail-coverts metallic steel blue; lower throat narrowly edged with metallic deep blue; breast with a broad band of orange-vermilion; yellow pectoral tufts present; abdomen, under tail-coverts, wings and wing-coverts (except least), under wing-coverts, and tail, black, the latter with the feathers (central ones particularly) edged with purple basally, and with green on terminal half. Bill, feet, and tarsi black in dried skin. Wing, 2.03 inches; tail 1.47; narrow central feathers, 2.25; tarsus, .60; culmen, .70.

Another adult male, obtained October 22, 1888, at Aruscha-wa-chini, southwest of Kilimanjaro, measures: wing, 2.07 inches; tail, 1.47 (central pair of feathers narrow but not fully grown); culmen .72.

This specimen agrees very closely with the type, but the greater wing-coverts are narrowly edged with metallic green.

This species seems to be related to *C. mariquensis*, or to one of its subspecies, but differs from all of them in the possession of moderate yellow pectoral tufts, and in the very narrow long central tail feathers, which project three quarters of an inch beyond the rest of the tail.

Captain Shelley has called attention to an occasional tendency in *C. mariquensis* to the development of long central tail feathers, but in the specimen observed by him the central feathers were only 0.15 inch longer than the rest of the tail, while in the present case they are fully 0.75 inch.

5. **Amydrus ? dubius,** new species.

Type. — No, 118112, U. S. N. M.; female, adult, Taveita, East Africa, August 17, 1888; Dr. W. L. Abbott, collector.

Entire head, nape, rump, upper tail-coverts, and whole under parts slate gray, with a slight greenish purple gloss; feathers of rump, and upper tail-coverts with blackish centres; lores and a narrow ring around eyes black; thighs blackish; back and scapulars glossy purplish black, with a slight bronzy wash; wings and tail black; primaries with the greater part of the inner webs cinnamon rufous, and a narrow line along the outer web, next the shaft, of the same color, but not visible externally when the wing is closed; wing-coverts black, like upper surface of wing; lesser coverts a trifle more glossy; under wing-coverts and axillaries like under surface of body but without gloss; edge of wing black. Wing, 3.85 inches; tail, 3.07; tarsus, .80; culmen, .73; width of bill at base, .38; length of first primary (exposed portion), .70. "Irides light yellow."

A single specimen of this interesting bird was obtained by Dr. Abbott. It is referred with some doubt to *Amydrus*, since it differs from the known species of this genus in its small size, circular nostrils, and concealed (instead of exposed) rufous of the wings. It has been carefully compared with descriptions of related genera, but differs from the majority of them in having the wings longer than the tail. This last character is apparently all that separates it from Cabanis's *Myiopsar*[1] [= *Pœoptera*]. In describing his *Myiopsar cryptopyrrhus*, Dr. Cabanis expressly states the tail to be longer than the wing and to resemble that of *Calornis metallica;* also that the nostrils are small, round and open. Dr. Sharpe, however, in a note[2] on *Pœoptera lugubris*, redescribes the birds after an examination of the type, and gives measurements ("wing 3.5, tail 3.3") which indicate exactly the opposite state of affairs. It is quite possible a typographical error has crept into the figures given by Dr. Sharpe. This ornithologist considers *P. lugubris* and *P. cryptopyrrhus* to be very distinct, but I am unable to find the latter in Shelley's 'Birds of Africa.'

In some respects *Amydrus dubius* resembles a diminutive *A. walleri;* the gray of the head is quite similar, but a trifle lighter, and with a slight purplish rather than a greenish gloss; the bill, much smaller than in *walleri*, of course, is of very much the same shape, but the culmen is less keeled, and the nostrils are small and circular; the subterminal notch on the maxilla is as far from

[1] Journal für Ornithologie, 1876, 93.

[2] Proc. Zool. Soc. Lond., 1878, 804.

the tip as in *A. walleri*, thus being proportionally more distant than in that species.

The rictal bristles are weak; first primary quite pointed; rufous color on under surface of wing occupies almost exactly the same area as in *A. walleri*, but on the second primary the inner half of the inner web only is rufous; second and third primaries almost equal in length; fourth primary longest; tail considerably graduated, distance between longest and shortest feathers .60 inch. Tarsus scutellated.

6. **Pholidauges femoralis**, new species.

Pholidauges fischeri SHELLEY, Proc. Zool. Soc. Lond., 1889, 368 (Kilimanjaro, 6000 feet).

Type. — No. 118111, U. S. N. M.; male, adult, Mount Kilimanjaro, 6000 feet, June 12, 1888; Dr. W. L. Abbott, collector.

Entire upper surface (except wings and tail), sides of head and neck, throat, chest, breast (extending down to a blunt point in the centre), thighs and femoral region, black, with a purplish gloss; sides of lower breast, sides of body, abdomen, and under tail-coverts cream color, somewhat mixed on sides of breast and body with dull black; lesser and middle wing-coverts like the back; greater and primary coverts greenish black edged with a purplish gloss; wings and tail greenish black, with a slight edging of purplish on the outer webs; feathers of both wings and tail rayed or ribbed in certain lights; longer feathers of upper tail-coverts greenish black with slight purplish edges, and rayed when held in proper lights; axillaries dull blackish with a purplish gloss on some of the feathers; edge of wing glossy purplish black; under wing-coverts dull slaty black, with a purplish edging on some of the outer feathers, and a small creamy white spot formed by the tips of some of the middle ones. Length (skin), 6.75 inches; wing, 3.75; tail, 2.80; tarsus, .92; culmen, .70 (.35 from distal end of nostril); first primary (from point of insertion), .82.

This species appears to be very distinct from any one previously described. It at first occurred to me that it might be the male of *P. fischeri*, with which, indeed, Captain Shelley identifies it, but upon referring to the description and colored plate of the latter it is seen that the female of *P. fischeri* has the middle tail feathers and the inner tertiaries green, with a pronounced metallic sheen, in strong contrast with an otherwise dull plumage; the male here

described, on the other hand, has only a slight gloss on these feathers. It is hardly probable the female of *P. fischeri* is more brilliant in any portion of its plumage than the male. In size the present species agrees very closely with the female of *P. fischeri*, but for that matter it is of nearly the same size as *P. leucogaster*, with which it is only distantly related. It is structurally almost identical with the last named bird, but lacks the brilliant metallic color. Compared with a specimen of *P. leucogaster* the bills are almost precisely alike; the tails are very slightly forked; the first primary in *femoralis*, is slightly longer and more rounded at the tip; the third and fourth primaries are longest in *P. leucogaster;* the fourth and fifth in *P. femoralis;* the under tail-coverts are not as long as in *P. leucogaster*.

7. Laniarius abbotti, new species.

Type.—No. 119168, U. S. N. M.; male, adult, Mount Kilimanjaro, 5000 feet, October 18, 1889; Dr. W. L. Abbott, collector.

Back, scapulars, rump, upper tail-coverts, wing-coverts, and upper surface of wings and tail green (between oil and olive green), shafts of the feathers black, the secondaries and tail very slightly more olive; tail feathers, except middle pair, very narrowly tipped — mostly on the inner webs — with buffy yellow; wing feathers, except exposed upper surface, brownish black, the inner webs of all (including base of first primary) broadly edged with straw yellow, less pronounced on the tertiaries, and occupying only one-third the length of the second primary, one-half of the third, and increasing on the inner ones; axillaries and under wing-coverts canary yellow. Top of head, nape, sides of neck, and upper back, slate gray, passing somewhat gradually into the green of the back; forehead, lores, line above and below eyes, upper part of cheeks, and ear-coverts, black, passing into the gray of sides of neck, but elsewhere sharply contrasted with adjacent colors; throat, lower part of cheeks, chest, and breast, bright orpiment orange (the feathers bright yellow below the surface), passing into greenish canary yellow on the abdomen: under tail-coverts greenish-yellow like abdomen; sides of body darker; thighs greenish, like back. Length (skin), about 7.30 inches; wing, 3.50; tail, 3.42; tarsus, .97; first primary, from insertion, 1.09. Bill black; feet brownish (in skin); "irides red." The bill is injured by shot and measurements cannot be given; the under mandible, however, measures .40 inch from the mental apex. The feet and tarsi are considerably smaller than those of the few species of *Laniarius* (in its broad sense) now before me, and the first primary is decidedly shorter.

The pattern of coloration is in general so much like that of *L. multicolor* of the *Malaconotus* group (a species not accessible to me except through the colored plate in Gray's 'Genera of Birds'), that I think it must be nearly related to this species. It differs very decidedly, however, as a comparison with the above description will show.

The rictal bristles are weak; the nostrils are rounded and almost entirely hidden by the black feathers at the base of the culmen; nuchal hairs are present. The tail is slightly graduated, the difference in length between the middle and outermost rectrices being .40 inch.

One specimen only of this handsome species was obtained; it appears to be quite distinct from any known species, and it is with great pleasure that I dedicate it to Dr. Abbott, who has labored so assiduously in the last few years to increase the collections of the U. S. National Museum.

8. **Prionops vinaceigularis,** new species.

Type. — No. 118136, U. S. N. M., male, adult; Plains east of Mount Kilimanjaro, October 1, 1888; Dr. W. L. Abbott, collector.

Crest grayish white, only slightly developed; fore crown grayish white, passing into dark vinaceous-cinnamon on the hind crown, this color continuing down on sides of head over ear-coverts, narrowly over eyes to lores, and on cheeks, passing into lighter vinaceous-cinnamon on throat; the color of the cheeks, ear-coverts, superciliary line and lores mixed with white, the latter almost pure in a patch below the eyes; lower throat and rest of under parts white, this color passing up on sides of neck and over nape, where somewhat broken by a black patch continuous with that of the back; back, rump, and upper tail-coverts black, some of the feathers of the latter narrowly edged with buff; wings black, with an oblique, white bar across primaries (except the first), visible only on under side; secondaries and inner primaries tipped narrowly with brownish buff, some of the former also indistinctly edged on outer webs with the same color; wing-coverts black, some of the inner feathers of the middle and greater series tipped with white; alula and primary coverts edged and tipped with whitish buff; under wing-coverts and axillaries black; tail black, middle pair of feathers wholly so, next pair slightly notched with white at tips; three following pairs with increased white terminal notches, and outer pair wholly white on outer web, but basal two-thirds of inner web black. "Feet red; bare skin around eyes green; irides yellow." Wing, 4.02 inches; tail, 3.30; tarsus, .84; culmen, .82.

Two other specimens, females, collected at the same place, October 6, agree with the bird just described, but have a blackish instead of white spot below the eyes, and the black of the back extends up to the crown. One of these females also has a number of dusky blackish feathers scattered on the sides of the crown, and the ear-coverts are prouts brown. The iris and skin around the eye are stated to be 'yellowish green' on one of the labels.

This species seems to agree with *P. cristatus* in not having the conspicuous wing band, formed by the white edges on wing-coverts and secondaries, but I have no specimen of the latter with which to carry the comparison farther. Dr. Sharpe[1] gives the irides of *P. cristatus* as grey, while in the present species they are yellow or yellowish green.

9. Chloropeta similis, new species.

Type. — No. 118065, U. S. N. M.; female, adult, Mount Kilimanjaro, 10000 feet, July 29, 1888; Dr. W. L. Abbott, collector.

Upper surface of head, nape, sides of neck, back, scapulars, rump, upper-tail-coverts, lesser wing-coverts, edges of middle and greater coverts, edges of primaries and of tail feathers, and bend of wing, uniform brownish green (between olive and olive green), lighter on rump; wing and tail feathers dark brown; outermost pair of tail feathers edged with yellowish green; under surface, including cheeks, under wing-coverts and axillaries, bright lemon yellow, deeper on bend of wing; line above lores lemon yellow; sides of face, and ear-coverts, like upper parts; sides of breast yellowish green; thighs yellow anteriorly, brownish posteriorly; sides of body with a greenish tinge; inner webs of wing feathers edged with pale buffy yellow. Wing, 2.15 inches; tail, 2.20; tarsus, .90; culmen, .59; first primary, .72.

Four specimens of this bird were collected on Kilimanjaro, at altitudes of 8000 and 10000 feet, during June and July, 1888. Its nearest relative appears to be *C. icterina*, but from this it differs in the wing formula, in smaller size, and apparently in the color of the thighs and upper parts. In *C. similis* the third primary is equal to the eighth, not to the seventh (as in *C. icterina*), nor to the sixth (as in *C. natalensis*). The fourth primary in our bird is equal to the seventh. The first primary is rather broad, and in one example is .89 inch long (exposed portion): in the type it is comparatively short.

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[1] Ibis, 1891, 601.

It might naturally be thought that our bird would be *C. massaica* of Fischer and Reichenow, which comes from the base of Kilimanjaro, but this species is said to be nearly related to *C. natalensis;* it is also considerably larger than *C. similis*, and has the top of the head dark brown.

The single male collected by Dr. Abbott is not quite adult, and a female has therefore been chosen for the type.

10. **Melanobucco abbotti,** new species.

Type.—No. 117957, U. S. N. M.; female, adult, Plains of Taveita, July 22, 1888.

Entire head, nape, sides of neck, throat, breast, upper portion of abdomen, under tail-coverts, rump, upper tail-coverts, and entire tail (even concealed portion of base) white, with a faint sulphur yellow tinge on the rump, breast and upper abdomen; sides of breast, sides of body, lower abdomen, and flanks, brownish black, most of the feathers with whitish tips or triangular shaft spots of the same color. Scapulars brownish black, with whitish triangular shaft streaks; back and wings brownish black, the feathers of the former and of the wing-coverts and tertiaries faintly tipped with whitish or pale brown; thighs white, with a slight admixture of brown; under wing-coverts dark brown, with a slight mottling of white; axillaries dark brown; under surface of wings dusky brown, the inner webs of the wing feathers (except first primary) with basal half or more edged with white. Wing, 3.90 inches; tail, 2.26; tarsus, .98; culmen, 1.02.

This bird is closely related to both *M. albicauda* and *M. senex*, but differs from the former in having a white breast and white tail (even to the base), and from the latter in the blackish brown abdomen, sides of body, and scapulars. The three species appear to have the same dimensions.

NEW BIRDS FROM THE ISLANDS AND PENINSULA OF LOWER CALIFORNIA.

BY A. W. ANTHONY.

THE past summer a small collection of birds was made by the writer, assisted by Mr. Horace Gaylord, along the west coast of